

**METHOD AND APPARATUS FOR ALLOCATING
BANDWIDTH AT A NETWORK ELEMENT**

ABSTRACT

Packets in a Per Hop Basis (PHB) are metered by a network element to see if they fall within a Committed Information Rate (CIR) or Committed Burst Size (CBS) for that PHB. Packets that are within the CIR or CBS for the given PHB are marked as in profile. Packets to be output over a given port that are not in profile are metered by a common Surplus Information Rate (SIR) meter, which is used to meter commonly excess packets from all PHBs configured through that port. By using a common SIR meter to meter out of profile packets for all PHBs on a given port, it is possible to allow packets from multiple PHBs to share the surplus bandwidth on a link connected to that port fairly, while not allocating bandwidth to PHBs that do not require surplus bandwidth. Token buckets may be used to implement the meters.